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(71) Applicant *(for all designated States except US)*: NET 2 INTERAKTIV AS [NO/NO]; Postboks 2, N–5002 Bergen (NO).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: LAURITZEN, Freddy [NO/NO]; Nye Sandviks vei 68, N–5035 Bergen (NO).

(74) Agent: OSLO PATENTKONTOR AS; Postboks 7007 M, N–0306 Oslo (NO).

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(54) Title: SMS–BASED CHAT LINE – SMSCHAT

(57) Abstract

The present invention relates to an arrangement and a method for exchange of messages between users in a telecommunications network. Messages are sent from the users mobile phones as SMS messages to a SMS netgate in the telecommunication network. The messages are sent from the netgate to a smsChat server that processes the messages and generates Teletext pages which are transferred to a Teletext inserter which publishes the pages on a public television network.

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SMS-BASED CHAT LINE - SMSCHAT

Area of the invention

5   The present invention relates to Teletext services, and in particular access for the public to exchange messages ("chat") via Teletext pages.

Prior art

10

The technique that is most similar to the invention functionally, is the Chat pages on the Internet (IRC, Internet Relay Chat). Here the users can type in messages to each other. The communication is practically instantaneous, and

15   the users experiences a feeling of "talking" to each other.

To access the Internet, users has to install particular equipment, like personal computers and modems, at least this is the present situation. Furthermore the system is

20   not universally available, i.e. big parts of the population is connected to the Internet but seldom or not at all.

Brief description of the invention

25   It is an object of the invention to provide a service for text based "conversation" which is universally available for the majority of the population without investments in specially designed equipment.

30   This is achieved according to the invention by using a normal mobile phone with the ability to send SMS messages (Short Message System), e.g. a GSM telephone, as the terminal and Teletext as the communication medium. Users of the invention transmit SMS messages from their mobile phones

35   to a dedicated Teletext page. The text messages are placed in a queue of pages rolling past said Teletext page. Everyone possessing television receivers equipped with Teletext decoders can read the messages, and everyone with a mobile

phone subscription at a telephone operator offering smsChat can send/answer messages. This means a system based on universal and standardized structures for communication that are widely available in the society.

5

In addition to sending messages via Teletext, the system can provide functions like:

- To send messages directly to other users

10

- To use colours and graphics on messages that is to appear on Teletext

- Monitoring of all messages sent to Teletext. The users
15   turn on a notice service for a defined search term. If the search term occur in a message, a copy of the message is automatically sent directly to the mobile phone of the user.

20   The system also comprises censorship of messages with unwanted content, dynamically updating of statistical functions and the possibility of several Teletext pages.

The scope of the invention is as defined in the appended
25   claims.

Description of embodiments

The system is now to be described further with reference to
30   the appended figure. In the figure a mobile telephone or cellular network serving a multitude of mobile phones is denoted (1). In said network there exist a netgate (2), which is the network providers central unit for sending and receiving SMS messages. When a user of a mobile phone
35   wishes to post a message on Teletext, he sends a SMS message to the netgate. The message includes an initial command and the text itself which is wanted placed on Teletext. The commands are specific commands agreed upon

with the network provider, i.e. codes that are understood
by the netgate. The netgate reads from the initial command
that this is a smsChat message, and transfers the message
to the smsChat server (3) of a Teletext provider.

5   Alternatively the user can send the message to a telephone
number which is dedicated smsChat messages. In this alter-
native messages are addressed directly to the server (3).

As shown in the figure, several networks operated by dif-

10 ferent network providers may be served by the same smsChat
server. Each network provider can arrange with the Teletext
provider to have his specific set of commands.

The transfer of data between netgate (2) and smsChat server

15 (3) is based on presently available technology and may be
effected via e.g. a Intranet, the Internet or a direct
line. The transfer is based on known communication proto-
cols like tcp/ip, ipx, X.25, etc. The specific way for
transferring data is of no consequence to the invention.

20
The smsChat server (3) receives the messages from the net-
gate (2) and processes the same. The server (3) execute the
commands entered by the user. These also includes the main
command to place a message on a Teletext page. The smsChat

25 server may be broken up into several processors (comput-
ers/servers) and applications. The construction may vary
according to which commands the server is to serve and
where the applications is placed. The applications may for
instance be placed at a cellular network operator, Teletext

30 operator or at a third party who is responsible for operat-
ing the server and its applications.

The smsChat server generates the Teletext page containing
the message, places the page in a queue with other Teletext

35 pages and transfers the pages to a Teletext inserter (6),
which transmit the page onto the public television network.
The Teletext incerter (6) is a commercially available
equipment that exists in several types from different pro-

4

ducers. The common television viewer can read the messages
as they appear on said page, and may eventually answer a
message if its content is of interest. The transfer between
smsChat server(s) and Teletext inserter can be done using
5   the same techniques for data transmission as was mentioned
earlier.

The netgate adds the users telephone number (A-number) to
the message, as the number uniquely identifies the user.
10 The smsChat server (3) communicate with a database (4). The
object of the database is to process incoming messages, to
impose control functions.

The database (4) includes a user register containing user
15 information. When a first message is received from a new
user, said user is assigned an anonymous user number. The
user number is connected to the mobile phone telephone num-
ber. The users can record information like name, age, sex,
pet name and zip code, etc., with their user number. The
20 user number and possibly other recorded data can be placed
as a heading on each message posted on Teletext.

The database (4) can additionally include a log registry
containing all messages received. It could also be extended
25 to include a registry with nasty words. Said registry can
be employed for automatic censorship of illegal and offend-
ing words. The database allow for making statistics con-
cerning the use of the system. These additions are meant as
possibilities, and not as prerequisites for the smsChat
30 system to work.

Unwanted user numbers may be closed out from the service.
Either in a specific quarantine time or as a permanent
close-out.
35

Quarantine

Quarantine is used for users that breaks the rules of the system. A quarantine is given in days, hours or minutes. When a quarantined user sends a message, there will appear on the Teletext page a message header containing user information and notice of remaining quarantine time.

The system comprises three ways of giving quarantine:

1. Ordinary users can send a PUNISH message concerning another user. Each user is assigned a confidence parameter indicating the amount of quarantine (length in seconds) he/her is enabled to give other users. One positive and one negative PUNISH can be given per quarantine.

2. System operators are selected users with high confidence parameter and immunity against PUNISH. These have a superior responsibility for monitoring the pages. They can mete out several negative and positive PUNISH on the same quarantine.

3. Administrator users are users with software connected to the smsChat server via an Intranet or the Internet. In addition to give quarantine, they monitor message logs and adjust user information.

Automatic censorship

Three different types of censorship are performed before messages are entered into the database:

1. User control - checks whether the user has quarantine.

2. Text control - All unwanted words are entered into a register. The system looks for unwanted words and expressions. Two searches are performed on each message:

a) Search for unwanted word which is replaced with XXX. The message is presented on Teletext without the unwanted words.

b) The system replaces all characters that not are letters, and several identical letters in succession. A new search is performed in the text and if unwanted words now are found the message is stopped. On the Teletext page the message is replaced with the message: "Message stopped due to automatic censorship". If for instance "CAKE" is an unwanted word, the system will stop words like "C..A..K..E", "CCCAAAAKKKKKEEEEEE" and "C-A-K-E".

3. Control of identical messages. Several identical messages are stopped by the system. Identical spam messages are thus avoided.

Commands

The first word appearing in a message is a command which controls further processing.

CHAT - Send a message to Teletext
E.g. "CHATB Hello everybody!!!"
The main command is a CHAT command which will publish a message on a chat page. If the smsChat server serves several chat pages, there is possible to make a CHAT command for each page (e.g. CHATA, CHATB, CHATC), that feeds the message to the wanted page. CHAT command without letter code is routed onto the A page. As CHAT is the command most commonly used, it can be shortened to C, e.g. "CB Hello!".

REC - Recording of user information
E.g. "REC Honey,23,5002"

The command REC is used for recording of user information. The command is followed by name, age and zip code. The location is taken from a list.

5 The user may change the user information, bur the user number is fixed. All messages will appear on Teletext with user number and possibly name, age and location, e.g. 10574 Honey (23) Bergen

10 **SEND**, **OPEN** and **CLOSE**

A user may send messages directly, anonymous and without censorship to the mobile telephone of another user. The message is sent to the user number of the receiver. The user number of the sender is presented for the receiver.

15 Initially the receiver has to use a command to open up the connection for receiving. There also exist a command for closing out messages from the sender. Of reasons for personal protection it is important that users can remain anonymous to each other, and this possibility is taken care

20 of by the present system.

PUNISH

The users may survey the page(s) themselves and give quarantine to each other with the command PUNISH. Every user

25 has a confidence parameter in the user registry regarding how many seconds of quarantine they can give. It is possible to introduce negative PUNISHment to pardon a quarantine or parts of it.

30 If a person is given several punishments, all quarantine time are added. All new users have to start with 600 seconds (10 minutes) quarantine time, for example. There should be a minimum quarantine time collected before the quarantine is effected, e.g. at least 3600 seconds (1 hour)

35 before one has to atone the punishment. The confidence parameter is automatically adjusted through a system which "rewards" according to which quarantines a person is involved in.

8

System operators or persons with high confidence can be im-
mune against punishment from others. System operators are
allowed to use supplementary commands e.g. for adjusting
5   other users personal information data, including the pa-
rameter for confidence. If the command PUNISH is offered,
system operators should be enabled to regulate quarantines
which is in effect by giving negative punishment. Only sys-
tem operators should be given the right to punish the same
10 person several times for the same error.

NOTICE - When a defined word is shown on Teletext, a copy
is transferred to the user.
The command start searches for a defined word and sends
15 messages where these words are occurring to the mobile
phone that has initiated the NOTICE command. The search
also encompass user information contained in the headers of
messages.
E.g. "NOTICE Honey" will send a copy of all messages ap-
20 pearing on Teletext which contains the word "Honey".

NOTICEEND - Automatically ends transfers of messages.
The command automatically cancels a previous NOTICE com-
mand.
25

CLOSEOUT - Gives quarantine to another user.
E.g. "CLOSEOUT 10267 28 Bullying of other users". The mes-
sage initiates a permanent close-out. User number, duration
and a text stating the reason has to be given. The command
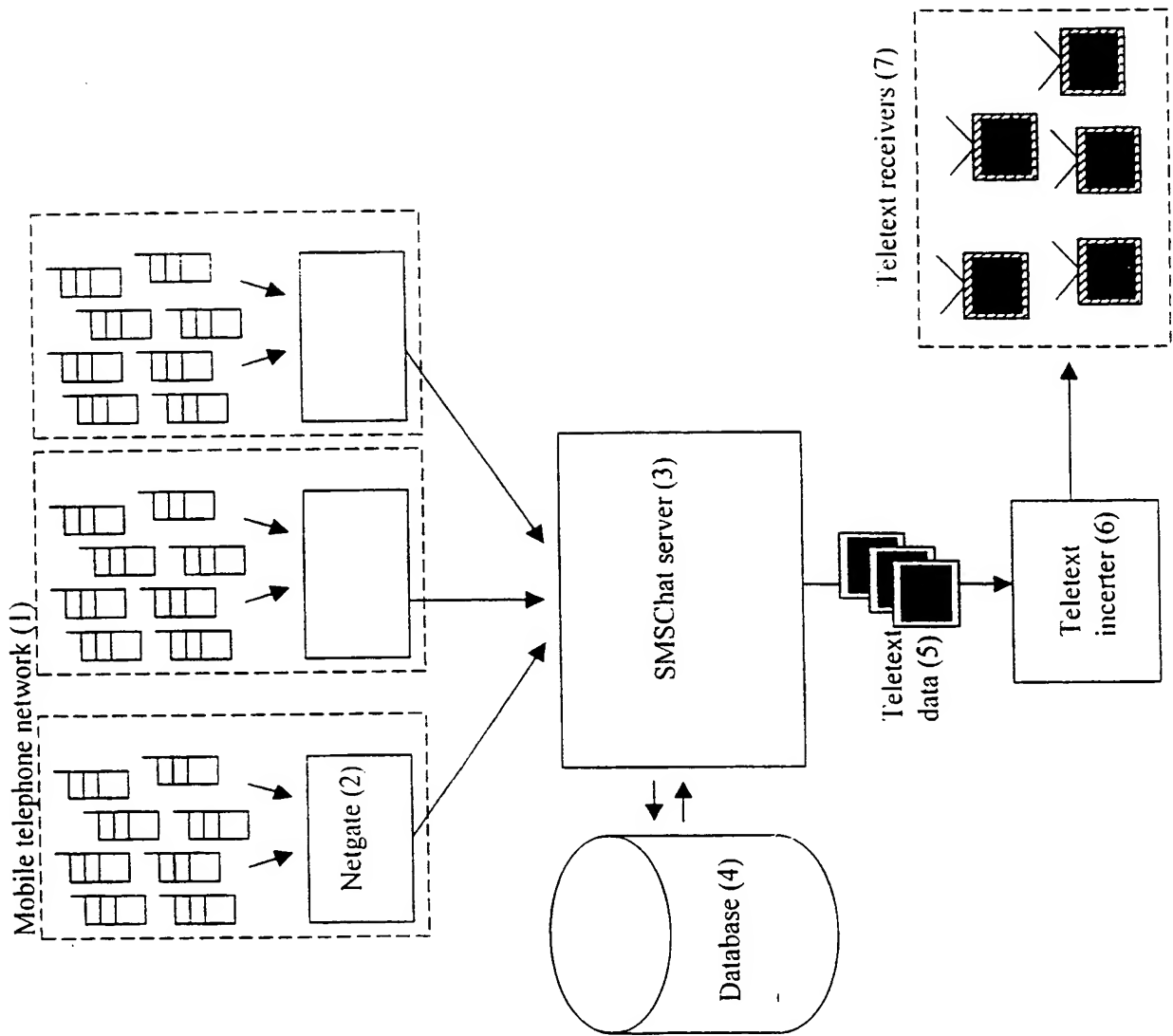30 is reserved for administrators.

Other options

The user can be allowed to use graphical tools in the
35 Teletext system by sending special characters that are in-
terpreted as commands for changing the colour of the text.

Dynamic scrolling speed: The length of the queue decides
the speed whereupon pages are scrolling across the screen.
When the queue is updated, a counter reflecting the number
of lines in the queue is also updated. The period between
5   updating of the queue and the number of lines included in
each updating varies with the length of the queue. The num-
ber of messages presently receding in the queue are pre-
sented in the upper heading of the Teletext page.

●

10

Patent claims

1. Arrangement for exchange of text messages between us-
ers of a telecommunication system,
5   c h a r a c t e r i z e d   i n   that mobile phones in a
cellular network are utilized as input terminals, and that
the messages are presented on Teletext pages displayed on
television receivers which function as output terminals.

10 2. Arrangement according to claim 1,
c h a r a c t e r i z e d   i n   the messages are entered
as SMS messages into a netgate belonging to the network op-
erator, which netgate transfers the messages to a server
for processing.
15

3. Arrangement according to claim 2,
c h a r a c t e r i z e d   i n   that said server is ar-
ranged to generate and update Teletext pages containing
said messages, which pages are transferred to a Teletext
20 inserter that publishes said pages.

4. Arrangement according to claim 3,
c h a r a c t e r i z e d   i n   that said server is con-
nected to a database, which database contains a registry
25 with user information.

5. Method for exchange of messages between users of a
telecommunication system,
c h a r a c t e r i z e d   i n   the following steps:
30

  • users enter sends their messages as SMS messages from
    mobile phones to a netgate (2) owned by a cellular net-
    work provider,
  • the netgate communicate the received messages to a
35 smsChat server (3),

- said server (3) processes the incoming messages and gen-
  erates Teletext pages containing the messages,
- said Teletext pages are transferred to a Teletext in-
  serter (6),

5 - said Teletext inserter (6) publish the pages containing
 the messages on a public television network.

Mobile telephone network (1)

Netgate (2)

SMSChat server (3)

Database (4)

Teletext data (5)

Teletext incerter (6)

Teletext receivers (7)

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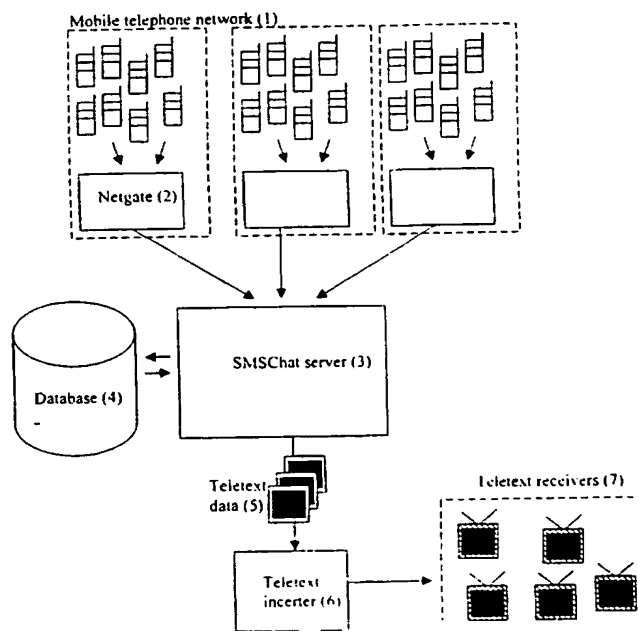
(57) **Abstract**

The present invention relates to an arrangement and a method for exchange of messages between users in a telecommunications network. Messages are sent from the users mobile phones as SMS messages to a SMS netgate in the telecommunication network. The messages are sent from the netgate to a smsChat server that processes the messages and generates Teletext pages which are transferred to a Teletext inserter which publishes the pages on a public television network.

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INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: H04M 3/50, H04N 7/088

According to International Patent Classification (IPC) or to both national classification and IPC

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IPC6: H04N, H04M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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C. DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 4890321 A (NIGEL SETH-SMITH ET AL), 26 December 1989 (26.12.89), see whole document	1-5

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